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| EXAMINER |
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MACCHIAROLO, PETER J

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| ART UNIT | PAPER NUMBER |
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2879

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/18/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/815,563

Applicant(s)

YAMAZAKI ET AL.

Examiner

Peter J. Macchiarolo

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 13-16, 18 and 30-60 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 6, 13-16, 18 and 30-60 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on 12/22/2006. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.14. Applicant's submission filed on 11/21/2006 has been entered. However, pending claims 1-4, 6, 13-16, 18, and 30-60 are not allowable as explained below. An action on the RCE follows.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, 30, 31, and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by Koyama (USPN 6730966: "Koyama").

Regarding claim 1, Koyama discloses at least in figures 9a and 9b, a light emitting apparatus having at least one light emitting element (4011) over an insulator (4010), the light emitting element comprising: an anode (4027) having at least a first end portion and a second end portion formed over said insulator (4010); at least one wiring (4023) formed in contact with

the first end portion of the anode (4027), and wherein the wiring (4023) is not part of the anode (4027); an insulating film (4028) covering at least the first and the second end portions of the anode (4027); an electroluminescent layer (4029) is formed over the insulating film (4028) and the anode (4027), wherein the EL layer (4029) is in direct contact with a part of the anode (4027); and a cathode (4030) formed over the electroluminescent layer (4029).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 2 and 3, Koyama discloses at least in col. 22, ll. 25-33 that the wiring is formed of a metal film (i.e. the TFT is made from a titanium film, evidenced at col. 33, ll. 61-67).

Regarding claim 4, Koyama discloses at least in col. 22, ll. 37-42 the anode is formed from ITO.

Regarding claim 6, Koyama discloses at least in figures 9a and 9b, an electric device (4017) uses the apparatus.

Regarding claims 30 and 31, Koyama discloses at least in col. 22, ll. 25-42 that the wiring is different in material from the anode; and the wiring is made of a material lower in resistance than that of the anode.

Regarding claim 59, Koyama discloses at least in figure 9b the insulator (4010) does not contact with the EL layer (4029).

Claims 1-4, 6, 30, 31, and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamada (USPN 6246179: "Yamada").

Regarding claim 1, Yamada discloses at least in figures 6 and 7, a light emitting apparatus having at least one light emitting element over an insulator (10), the light emitting element comprising: an anode (61) having at least a first end portion and a second end portion formed over said insulator (10); at least one wiring (18) formed in contact with the first end portion of the anode (61), and wherein the wiring (18) is not part of the anode (61); an insulating film (17) covering at least the first and the second end portions of the anode (61); an electroluminescent layer (66) is formed over the insulating film (17) and the anode (61), wherein the EL layer (66) is in direct contact with a part of the anode (61); and a cathode (67) formed over the electroluminescent layer (66).

Regarding claims 2 and 3, Koyama discloses at least in col. 1, ll. 56-58 that the wiring is formed of aluminum film.

Regarding claim 4, Yamada discloses at least in col. 7, ll. 27-29 that the anode is formed from ITO.

Regarding claim 6, Yamada discloses at least in col. 1, ll. 6-9, an electric device (display device) uses the apparatus.

Regarding claims 30 and 31, Yamada discloses at least in col. 7, ll. 27-29 and col. 1, ll. 6-9 that the wiring (Al) is different in material from the anode (ITO); and the wiring (Al) is made of a material lower in resistance than that of the anode (ITO).

Regarding claim 59, Yamada discloses at least in figure 9b the insulator (10) does not contact with the EL layer (66).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-16, 18, 32-37, 49-56, 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya et al (USPN 6380673; "Sekiya") in view of previously cited Beesely et al (USPN 5400047; "Beesely") in view of previously cited previously cited Terao et al (USPN 6133581; "Terao").

Regarding claims 13 and 49, Sekiya discloses at least in figures 4a and 4b, a light emitting apparatus (20) having at least one light emitting element over an insulator (21), the light emitting element comprising: an anode (22) having at least a first end portion and a second end portion formed over said insulator (10), the anode extending in a first direction wherein each of the first end portion and second end portion of the anode extends along said first direction; an insulating film (23) covering at least the first and the second end portions of the anode (22); an electroluminescent layer (25) formed over the insulating film (23) and the anode (22), wherein the EL layer (25) is in direct contact with a part of the anode (22); and a cathode (26) formed over the electroluminescent layer (25).

Sekiya is silent to the claimed wirings.

However, Beesely teaches in at least figure 4 and col. 2, ll. 41-46 that adding first and second wiring portions wherein the first wiring is formed in contact with the first end portion of the anode, the second wiring is formed in contact with the second end portion of the anode, the first wiring and the second wiring are extending in the first direction, and the first wiring and the second wiring are not part of the anode allow for a brighter EL display since the transparent anode resistance is reduced.

Furthermore, Terao teaches in at least figure 8c that a light emitting apparatus having a wiring (2b) on the end portion of a transparent anode (2a) in a configuration similar to Beesely, can also be positioned between the insulator (fig. 8e, #1) and anode (2a). Terao further teaches in column 8, lines 18-27 that the positional relationship of the wirings is a matter of design choice. One would be motivated to form the wirings between the anode and the insulator since this will ease manufacturing tolerances and requirements. Furthermore, forming the wiring

under the anode will reduce the number of formation process the anode is subjected to, thereby increasing the reliability of the anode's structural integrity.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Sekiya with first and second wirings of Beesely formed between the insulator and the anode to allow for a brighter EL display which can be manufactured easily with less risk.

Regarding claims 14, 15, and 50 Beesely discloses the wiring (66) is formed of a metal film of aluminum (fig. 7, #74; see also col. 4, line 45). The motivation and reasons for combining are the same as for claim 13 above.

Regarding claims 16, and 51 Sekiya discloses in at least col. 4, ll. 30-32 that the anode is formed of ITO.

Regarding claims 18 and 52, Sekiya discloses at least in col. 1, ll. 5-7 an electric device (EL display) using the apparatus of claim 13.

Regarding claims 32, 33, 53, and 54 the combined device of Sekiya and Beesely have the first and second wiring (A1) being different in material from the anode (ITO). This combination provides the first and second wiring being made of a material lower in resistance than that of the anode. The motivation and reasons for combining are the same as for claim 13 above.

Regarding claims 55 and 60, Sekiya discloses at least in figure 4b the insulator (21) does not contact with the EL layer (25).

Regarding claim 34, the recited limitations are the same to those addressed in rejected claim 13 (above), with the addition of the anode being electrically connected to a first driver circuit which is mounted by a COG system; and the cathode is electrically connected to a second driver circuit which is mounted by the COG system.

Sekiya discloses at least in figure 4d the anode (22) being electrically connected to a first driver circuit (see fig. 4c; brightness signal circuit); and the cathode (26) is electrically connected to a second driver circuit (scanning circuit).

The Examiner notes that the claim limitation "mounting the drivers by a COG system" is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Sekiya, Beesely, and Terao (see MPEP 2113).

Regarding claims 35-37 and 56, the limitations therein are the same as previously rejected claims 14-16 and 55. The rejections are likewise the same and will not be repeated here.

Claims 39, 40-42, 44-47, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya in view of Beesely in further view of Terao, in further view of previously cited Yokoi et al (USPN 5962970; "Yokoi").

Regarding claims 39 and 44, the recited limitations are the same to those addressed in rejected claim 13 (above), with the addition of a first stick driver being electrically connected to the anode through an anisotropic electrically conductive material, or through a metal wire.

Sekiya, Beesely, and Terao are silent to connecting the first and second stick drivers to an anisotropic electrically conductive material or a metal wire.

However, it is noted that the inclusion of an anisotropic electrically conductive material or a metal wire is not shown to solve any problems or yield any unexpected results that are not within the scope of Sekiya, Beesely, and Terao's display. Accordingly, this inclusion is considered to be an obvious matter of design choice. For example, Yokoi teaches at least in col. 6, ll. 3-7 that a stick driver can be connected to an electrode of an EL display with an anisotropic electrically conductive material or metal wire.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Sekiya, Beesely, and Terao including connecting first and second stick drivers to the anode and cathode through anisotropic electrically conductive material or by a metal wire to allow for easy manufacturing and proper operation.

Regarding claims 40-42 and 57; and also 45-47 and 58, the limitations therein are the same as previously rejected claims 14-16 and 55. The rejections are likewise the same and will not be repeated here.

Claims 38, 43, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya in view of Beesely in further view of Terao, in further view of Yokoi, in further view of previously cited Codama et al (USPN 6037712; "Codama").

Regarding claims 38, 43, and 48 Sekiya, Beesely, and Terao are silent to the light emitting apparatus having a plurality of banks arranged to be orthogonal to the anode.

However, Codama teaches at least in figure 1b and the abstract that this configuration reduces manufacturing time and increases operational reliability of the device.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Sekiya, Beesely, and Terao with the banks of Codama to reduce manufacturing time and increase the device's operational reliability.

Response to Arguments

Applicant's arguments filed 11/21/2006 have been fully considered but are moot in view of the new ground(s) of rejection.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

By 
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